RAZUMOV, L.D., kand.tekhn.nauk, starshiy nauchnyy sotrudnik;
OGUL'CHANSKIY, G.G.; SHAPUROV, P.V.

Electric measurements in cable lines, the strands of which
carry induced voltages. Vest.sviazi 20 no.2:15-16 F '60.
(MIRA 13:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut svyazi (for
Razumov). 2. Starshiye inzhenery TSentral'nogo nauchno-
issledovatel'skogo instituta svyazi (for Ogul'chanskiy,
Shapurov).
(Electric measurements) (Electric cables)

MIKHAYLOV, M.I., doktor tekhn. nauk; RAZUMOV, L.D., kand. tekhn. nauk

Operation of overhead communication lines along a.c. electric
railroad tracks. Zhel. dor. transp. 41 no.10:41-44 O '59.
(MIRA 13:2)

(Railroads--Communication systems)
(Electric railroads)

32(3)   SOV/112-59-2-3065

AUTHOR: Mikhaylov, M I., Kuptsov, Yu Ye., and Razumov, L. D.

TITLE: Determining the Electric Parameters of a Single-Phase Contact-Wire
System (Opredeleniye elektricheskikh parametrov kontaktnoy seti odnofaznogo
peremennogo toka)

ABSTRACT: To evaluate the accuracy of existing methods for calculating electrical
parameters of a contact system, Vsesoyuznyy nauchno-issledovatel'skiy institut
zheleznodorozhnogo transporta (All-Union Scientific-Research Institute of
Railroad Transportation) and Tsentral'nyy nauchno-issledovatel'skiy institut
svyazi (Central Scientific-Research Institute of Communications) used various
computation methods and also actual measurements on an experimental section
Ozherel'ye-Pavelets in 1956. Computation methods were suggested by M. I.
Mikhaylov and by K A. Parfenov. A comparison of calculated and measured

Card 1/2

SOV/112-59-2-3065

Determining the Electric Parameters of a Single-Phase Contact-Wire System

values showed that major parameters of the contact system can be calculated
by both methods, except for determination of rail-track resistance, for which
the formulae should be made more accurate. In calculating capacitance, it
should be kept in mind that its approximate determination from the formula for
a single-wire circuit yields results 40-45% lower than the true capacitances.
The measured values of the contact-system parameters are fairly close to the
values obtained in other countries and for other line sections. Data comparison
shows that by using a bimetallic messenger (the USSR), thanks to the split-
phase effect, the same reduction of the contact-circuit impedance is attained
as by using a bronze messenger (France and Germany). On the other hand, the
strength of the bimetallic messenger ensures better mechanical characteristics
of the wire network with relatively low copper expenditures. In case of two-
track AC electrification, the contact systems of both tracks should be connected
in parallel because that results in reducing the impedance by approximately 40%.
Bibliography: 5 items

K.V.A.

Card 2/2

PUTILOVA, I.N.; MARCHENKO, A.F.; NIKOL'SKIY, K.K.; RAYTSYN, G.A.;
      RAZUMOV, L.D.; PUTILOVA, I.N., otv. red.; CHESNOKOVA, T.V.,
      red.; CHURAKOVA, V.A., tekhn. red.

      [Corrosion and means for preventing it in underground metal
      communication structures]Korroziia i zashchita metalliche-
      skikh sooruzhenii sredstv sviazi. [By]I.N.Putilova i dr.
      Moskva, Sviaz'izdat, 1962. 175 p.   (MIRA 16:2)
            (Electric lines—Underground) (Electric lines—Corrosion)

MIKHAYLOV, M.I.,doktor tekhn.nauk, prof. (Moskva); RAZUMOV, L.D.,kand.tekhn.
    nauk (Moskva)

    Galvanic effect of a.c. electrified railroads on single-wire
    lines. Elektrichestvo no.10:20-24 O '58.   (MIRA 12:1)
        (Electric railroads)   (Electric lines)

MIKHAYLOV, M.I., doktor tekhn. nauk; RAZUMOV, L.D., kand. tekhn. nauk.

Do we need overhead back voltage wires on railroads using alternating
current? Zhel. dor. transp. 40 no.12:51-54 D '58.   (MIRA 12:3)
(Electric railroads--Wires and wiring)

AUTHOR: Razumov, L.D.   SOV/106-59-7-12/16

TITLE: Short Communication: A Method of Determining the Density
           of the Leakage Current from Buried Metallic Structures

ABSTRACT: The best criterion for estimating the degree of corrosive
          action of stray currents is the current density. A dis-
          advantage of the majority of existing methods for measuring
          the current density is that it is necessary to place elec-
          trodes in the ground. For practical purposes, the corrosive
          action can be evaluated by measuring the potential of the
          buried structure (e.g. a sheathed cable) relative to a
          nearby point on the Earth's surface (Figure 1). The author
          shows that in some cases the leakage current density can
          be calculated from this measurement. From the work of
          the author (Ref 3), the potential U_{k-3} of the structure
          relative to the nearby point is given by:

Card 1/5

Short Communication: A Method of Determining the Density of the
Leakage Current from Buried Metallic Structures

$$U_{K-3} = -j\left[R_{nep} - \frac{\rho}{\pi}K_o\left(\gamma\sqrt{y^2 + h^2}\right)\right]$$ (1)

where   j   is the linear density of the leakage current from
the buried structure,

R_{nep} is the resistance between the buried structure
and a remote point of the Earth,

ρ is the specific resistance of the Earth,

γ is a constant of the distribution of the
current along the buried structure,

h is the depth of the structure under the
Earth surface,

y is the horizontal distance from the buried
structure to the point, relative to which the
potential is measured.

K_o is a Bessel function of the second class and
zero degree.

Card2/5   The author shows that:

Short Communication: A Method of Determining the Density of the Leakage Current from Buried Metallic Structures

$$j = - \frac{U_{K-3}}{R_{u3} + \frac{\rho}{2\pi} \ln \frac{y^2 + h^2}{Dh}} \qquad (4) \quad .$$

If $y = 0$, then

$$J = - \frac{U_{K-3}}{R_{u3} + \frac{\rho}{2\pi} \ln \frac{h}{D}} \qquad (5) \quad .$$

For the usual armoured cables with jute covering, the insulation resistance may be neglected and then:

Card3/5

SOV/106-59-7-12/16

Short Communication: A Method of Determining the Density of the
Leakage Current from Buried Metallic Structures

$$j = \frac{U_{K-\gamma}}{\dfrac{\rho}{2\pi} \ln \dfrac{h}{D}} \qquad (6) \quad \circ$$

For the new pipe-conductors with good insulation, the
second term in the denominator of Eq (5) can be neglected
and then:

$$j = -\frac{U_{K-\gamma}}{R_{u\gamma}} \qquad (7) \quad \cdot$$

Finally, a formula (9) is derived for the surface density
of the leakage current.
Thus, by measuring the potential relative to a nearby
point and also measuring the specific resistance of the
Earth, the leakage current density can be calculated.

Card 4/5

SOV/106-59-7-12/16

Short Communication: A Method of Determining the Density of the
Leakage Current from Buried Metallic Structures

There are 2 figures and 4 Soviet references.

SUBMITTED: January 13, 1959

Card 5/5

Н. В. Суходоев

Полупроводниковые схемы в системах уплотнения внутрирайонной связи

(2 часов)

Н. Н. Акимфов

Суммирование нелинейных помех многоканальных систем на магистралях большой протяженности

П. В. Шмугров

Экспериментальное и теоретическое исследование закона слияния линейных путеов в канале кабельной магистрали большой протяженности

А. М. Ягель

Анализ одной из схем стабилизированной связи с многоканальным усилителем

Н. Н. Ртругин

О влиянии частотных нестабильностей на каналы тонального телеграфирования с частотной модуляцией

II вона
(с 10 до 16 часов)

22

П. К. Акульшин

Влияние через третье цепи, вызываемое конструктивными неоднородностями линии

А. Д. Амплатино

Влияние радиостанций на цепи воздушных линий связи

Н. П. Волкова

Зависимость вторичных параметров цепей от геометрии скрещивания

М. И. Михайлов,
Л. Д. Разумов

Организация связи по ВЧ каналам воздушных цепей связи, проложенных в непосредственной близости от контактных сетей электрифицированных и жел. дорог переменного тока

II вона
(с 18 до 22 часов)

З. В. Заяц

О учете характеристических параметров симметричных четырехполюсников, в частности содержащих отрицательные сопротивления

23

report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications in. A. S. Popov (VNORIE), Moscow, 8-12 June. 1959

MIKHAYLOV, Mikhail Ivanovich, doktor tekhn.nauk. Prinimal uchastiye:
RAZUMOV, L.D.. GRODNEV, I.I., retsenzent; GRACHEV, I.S.,
otv.red.; BELIKOV, B.S., red.; MARKOCH, K.G., tekhn.red.

[Effect of external electromagnetic fields on communication
lines and protective measures] Vliianie vneshnikh elektro-
magnitnykh polei na tsepi provodnoi sviazi i zashchitnye
meropriiatiia. Moskva, Gos.izd-vo lit-ry po voprosam sviazi
i radio, 1959. 582 p.   (MIRA 12:9)
   (Telecommunication—Equipment and supplies)

SOV/106-58-10-10/13

AUTHOR: Razumov, L.D.

TITLE: Design of Current-Tappings for Protection of Transmission
             Cables Against Electric Corrosion (Raschet tokootvodov pri
             zashchite kabeley svyazi ot elektrokorrozii)

PERIODICAL: Elektrosvyaz', 1958, Nr 10, pp 71 - 75 (USSR)

ABSTRACT: Despite the fact that current tappings and "electrical
             earth drainage" have been used for protection of under-
             ground structures, there is still no literature on the
             design of the current tappings. Fig 1 shows the scheme
             for protection of an underground cable by current-tapping
             and Fig 2 for current tapping together with earth drainage.
             The action of the current flowing through the tapping is
             similar to the action of current obtaining in cathodic
             protection. The author derives a formula (equation 5)
             from which, if the parameters of the underground cable and
             the potential difference between the cable and the point
             at which the tapping is earthed, are known, then the
             impedance of the earth and of the connection lead required
             to create the necessary negative potential on the cable at
Card 1/3   a distance ℓ_x from the connection point of the tapping can

Design of Current-Tappings for Protection of Transmission Cables
Against Electric Corrosion

be calculated. This formula is used to calculate the
zones of protection, in dependance on the other parameters.
Fig 3 shows curves of the tapping resistance required for
protection of an inter-town cable over a length $2\ell_x = 200$ m,
with a voltage difference $\Delta V = 5$ volts between the cable
and the earth point of the tapping, plotted against the
specific resistance of the earth, for different armoured
cable parameters and for different protection potentials.
Fig 3 shows how the protection zone ℓ due to a current
tapping with a resistance of 1 ohm depends on the specific
resistance ρ of the earth, for the same conditions as in
Fig 2.   The measurements (specific resistance of the
earth, etc.) to be taken before application of current-
tapping protection to a specific cable over a particular
track are detailed. The final choice is based on the

Card 2/3

SOV/106-58-10-10/13

Design of Current-Tappings for Protection of Transmission Cables Against Electric Corrosion

technico-economical comparison of a number of possible schemes.
There are 4 illustrations and 1 reference (Soviet)
SUBMITTED: November 4, 1957

Card 3/3

Name	:	RAZUMOV, L. D.
Dissertation	:	Methods for computing corrosion danger to cable coatings in a field of stray electric traction currents
Degree	:	Cand Tech Sci
Defended At	:	Min Communications USSR, Moscow Electro-technical Inst of Communication
Publication Date, Place	:	1956, Moscow
Source	:	Knizhnaya Letopis' No 6, 1957

RAZUMOV, Leonid Davydovich; PAVLOVSKIY, V.V., otv. red.; ULANOVSKAYA, N.M., red.; CHURAKOVA, V.A., tekhn. red.

[Protection of municipal telephone lines of intraregional telephone and wire broadcasting networks from electric current leakages of a.c.railroads] Zashchita linii gorodskikh telefonnykh setei, vnutriraionnoi sviazi i provodnogo veshchaniia ot vliianiia elektricheskikh zheleznykh dorog peremennogo toka. Moskva, Sviaz'izdat, 1963. 75 p.   (MIRA 16:10)
                    (Telephone lines)
        (Electric railroads--Current supply)

L 18019-63

ACCESSION NR: AP3004222   S/0105/63/000/007/0061/0066

AUTHOR: Razumov, L. D. (Candidate of technical sciences)

TITLE: Shielding by underground metal structures in galvanic influence c
railways

SOURCE: Elektrichestvo, no. 7, 1963, 61-66

TOPIC TAGS: underground electric corrosion

ABSTRACT: Single-conductor g   d-return circuits (remote supply, relay pro-
tection, etc.) are subject to galvanic influences as a result of electric-traction
earth currents. Underground structures, such as pipelines, cables, etc., that
run along the electric d-c railway act as a shield against the above galvanic influ-
ences. A theoretical investigation is offered of the degree of shielding under
various conditions; formulas and curves for calculating the shielding effect are
supplied. The conclusions are: (1) Underground structures generally reduce the

Card 1/2

L 18019-63
ACCESSION NR: AP3004222

galvanic influence of d-c railways upon the single-wire circuits; (2) Shielding
effect is noticeable only with earth resistivity of 100 ohm.m and higher and with
large-size shielding structures (pipelines); (3) Electric drainage protection of
pipelines reduces their shielding effect; the drainage protection of cables can even
increase the galvanic influence. Orig. art. has: 8 figures and 8 formulas.

ASSOCIATION: TsNIIS

SUBMITTED: 18Jun62   DATE ACQ: 08Aug63   ENCL: 00

SUB CODE: EE   NO REF SOV: 004   OTHER: 001

Card 2/2

TSIKERMAN, Leonid Yakovlevich,;NIKOL'SKIY, Konstantin Konstantinovich,;
        RAZUMOV, Leonid Davydovich,; MIKHAYLOV, M.I , prof. doktor tekhn.
        nauk, nauchnyy red.; SMIRNOVA, A.P., red. izd-va,; EL'KINA, E.M.,
        tekhn. red.

        [Calculating cathodic protection for pipelines] Raschet katodnoi
        zashchity truboprovodov. Moskva, Gos. izd-vo lit-ry po stroit.,
        arkhit., i stroit. materialam, 1958. 140 p.   (MIRA 11:8)
                        (Electrolytic corrosion)
                (Pipelines--Equipment and supplies)

MIKHAYLOV, M.I.; RAZUMOV, L.D.

Calculating drainage protection of subterranean communication cables
approaching electrified railroads. Elektrosviaz' 12 no.1:43-50 Ja
'58.   (MIRA 11:1)
(Electric cables)   (Electrolytic corrosion)   (Electric railroads)

MIKHAYLOV, M.I.; RAZUMOV, L.D.; MARKOV, M.V.

    Concerning the methodology for calculating the interference
    induced by a.c. electrified railroads in communication
    lines. Elektrosviaz' 15 no.12:56-61 D '61.   (MIRA 14:12)
               (Electric railroads)
               (Telecommunication)

S/106/61/000/012/008/010
A055/A127

6,7000

AUTHORS: Mikhaylov, M. I., Razimov, L. L., Markov, M. V.

TITLE: Calculation method of a-c electrified railway interferences in communication lines

PERIODICAL: Elektrosvyaz', no. 12, 1961, 56 - 61

TEXT: Harmonics 13 to 23 of the interfering current being taken into consideration (according to the provisional specifications) in the case of double-track railways, the following formula is used:

$$U_{noise} = \sqrt{ \sum_{k=13}^{23} (p_k U_{mk})^2 } \text{ volts} \qquad (1)$$

where p_k is the coefficient of acoustic effect at the frequency of the k-th harmonic, and U_{mk} is the voltage between the wires of a two-wire communication circuit, induced by the k-th harmonic of the interfering current. After reproducing the formulae giving U_{mk} for lines of any length and for short lines respectively, and also the formula for the current I_k (of the k-th harmonic component of the

Card 1/3

31204
S/106/61/000/012/008/010
A055/A127

Calculation method for a c electrified railway...

interfering current), the authors speak of the approximate method of calculation, where the interfering current is assumed equal to an equivalent current at 800 cps which must induce in the communication line the same noise-voltage as the working current with all its harmonics. They say that the formula recommended by the International Telephone and Telegraph Consultative Committee for the calculation of the equivalent current is not quite accurate. Indeed, the psophometric value of the interfering current:

$$ I'_{psoph.} = \sqrt{\sum_{k=3}^{35} (p_k I_k)^2} \text{ amp.} \tag{6} $$

cannot be considered as expressing the equivalent interfering current, because it does not take into account some of the electric magnitudes that enter into the formula giving U_{Ik} - i.e., ω, γ (propagation constant), η (coefficient of sensitivity to interferences of a two-wire telephone circuit), M (average mutual induction coefficient), r (resulting screening effect coefficient) - all of these magnitudes depending on frequency. It is necessary therefore to multiply I'_{psoph} by a correction factor. This correction factor is:

Card 2/3

Calculation method of a-c electrified railway...

S/106/61/000/012/008/010
A055/A127

$$k_{corr} = \frac{U_{f\ harm}}{U_{f\ 800}} \qquad (8)$$

and:

$$I_{equiv} = k_{corr} I'_{psoph} \text{ amp.} \qquad (10)$$

Here are some of the conclusions drawn by the authors: For overhead communication lines, all the harmonic components must be taken into account in the calculation. For cable lines, formula (1) can be used. The correction factor varies but slightly, whatever the conditions might be; it differs but slightly from unity. In an overwhelming majority of cases, it varies between 0.9 and 1.2. When the distance between the railway and the communication line is below 500 meters, k_{corr} can be taken equal to 1.15; for distances $\geqslant$ 500 meters, k_{corr} = 1. The importance of the frequency characteristic of the sensitivity coefficient of the line to interferences must be stressed; the greater is the frequency-dependence of the sensitivity coefficient, the greater will be the correction factor. There are 4 figures, 1 table and 1 Soviet-bloc reference.

SUBMITTED: February 8, 1961

Card 3/3

MIKHAYLOV, M.I.; KUPTSOV, Yu.Ye., inzh.; RAZUMOV, L.D., kand.tekh.nauk.

Determining the electric parameters for contact systems on
single-phase alternating current. Vest. TSNII MPS 16 no.8:
16-20 D '57.   (MIRA 11:1)
          (Electric railroads--Wires and wiring)

Razumov, L. D.

J.

USSR/Corrosion - Protection From Corrosion

Abs Jour   : Referat Zhur - Khimiya, No 9, 1957, 33195

Author   : Razumov, L.D.
Inst   :
Title   : Rating of the Danger of Electrocorrosion of Underground
               Metal Structures.

Orig Pub   : Elektrichestvo, 1956, No 9, 67-73

Abstract   : A procedure is proposed for computing the distance between
               a source of stray currents and the underground structure
               at which the latter will not undergo electrochemical cor-
               rosion. Since an exact mathematical solution of this pro-
               blem is extremely complicated, due to the possible comple-
               xity of the mutual system as well as the difficulty of an
               accurate evaluation of such parameters, appearing in the
               calculation formulas, as specific resistance of the ground
               and intermediate resistance between the underground struc-
               ture and the earth, the proposed formulas are a first

Card 1/2

USSR/Corrosion - Protection From Corrosion   J.

Abs Jour   : Referat Zhur - Khimiya, No 9, 1957, 33195

approximation of the solution of this problem. The funda-
mental premises for the derivation of the proposed formu-
las are set forth: for determining the "safe" distance
between source of current and the underground structure
and for computing the safe distance between underground
structure and a direct-current power distribution line,
in the case of a "conductor-ground" system. The proce-
dure is also considered of determining the detrimental
effect produced by cathodic protection units on adjoining
unprotected underground structures. An example is given
of the calculation of current leakage from cable sheathing
in the proximity of a pipe-line provided with cathodic pro-
tection.

Card 2/2

NIKOL'SKIY, K.K., inzhener; mladshiy nauchnyi sotrudnik; RAZUMOV, L.D., inzhener, mladshiy nauchnyi sotrudnik.

Over-all protection of cables from corrosion. Vest.sviazi 17 no.10:56-57 O '57.   (MIRA 10:11)

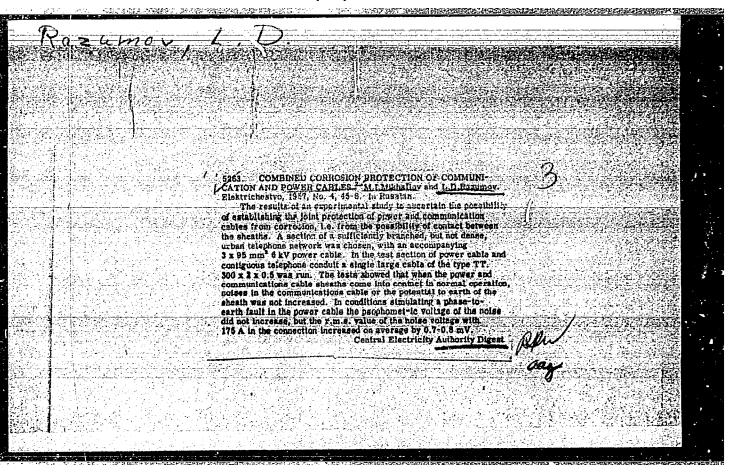1. TSentral'nyy nauchno-issledovatel'skiy institut svyazi.
(Electric cables)

V. s. L. u w. u s , u. D.

CABLES

"Calculations Involved in Protection of Underground Communication Cables
Against Corrosion When the Cables are Close to Electrified Railroad
Tracks", by M.I. Mikhaylov and L.D. Razumov, Elektrosvyaz' No 1, January
1958, pp 43-50.

    An engineering method is given for computing the parameters of a
corrosion protection for cables when the cables run parallel to electri-
fied railroad tracks. Formulas are given that can be used in the design
of cable protection against electric corrosion. The dependence of the
parameters of the protective system against various factors (specific
resistivity of the ground, distance between the electrified railroad and
the cable, etc.) are given.

Card 1/1

Razumov, L. D.

5263.   COMBINED CORROSION PROTECTION OF COMMUNI-
CATION AND POWER CABLES. M.I.Mikhailov and L.D.Razumov.
Elektrichestvo, 1957, No. 4, 45-8. In Russian.
    The results of an experimental study to ascertain the possibility
of establishing the joint protection of power and communication
cables from corrosion, i.e. from the possibility of contact between
the sheaths. A section of a sufficiently branched, but not dense,
urban telephone network was chosen, with an accompanying
3×95 mm² 6 kV power cable. In the test section of power cable and
contiguous telephone conduit a single large cable of the type TT,
$300 \times 2 \times 0.5$ was run. The tests showed that when the power and
communications cable sheaths come into contact in normal operation,
noises in the communications cable or the potential to earth of the
sheath was not increased. In conditions simulating a phase-to-
earth fault in the power cable the psophometric voltage of the noise
did not increase, but the r.m.s. value of the noise voltage with
175 A in the connection increased on average by 0.7-0.8 mV.
                    Central Electricity Authority Digest

MIKHAYLOV, M.I., doktor tekhnicheskikh nauk; RAZUMOV, L.D., inzhener.
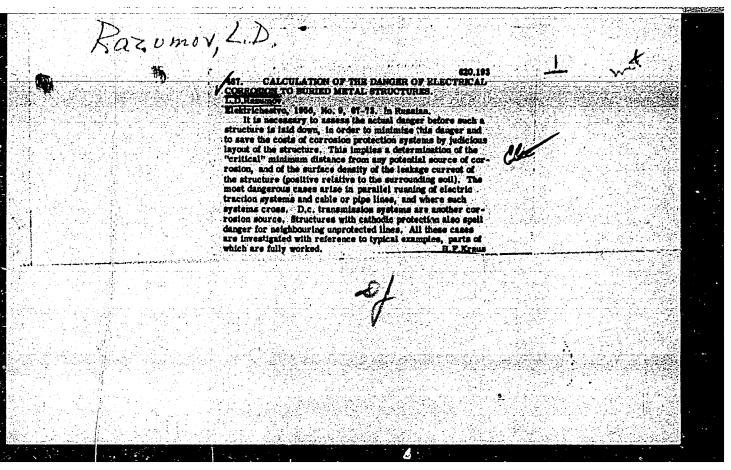
Simultaneous corrosion protection for telephone and power cables.
Elektrichestvo no.4:45-48 Mr-Ap '57.   (MLRA 10:5)

1.TSentral'nyy nauchno-issledovatel'skiy institut svyazi.
                (Electric cables--Corrosion)

NIKOL'SKIY, Konstantin Konstantinovich; RAZUMOV, Leonid Davydovich;
MIKHAYLOV, M.I., otvetstvennyy redaktor; DOBRYNINA, A.Ia., redaktor;
SUSHKEVICH, V.I., tekhnicheskiy redaktor

[Joint corrosion protection of communication cables and underground
metal equipment] Sovmestnaia zashchita ot korrozii kabelei sviazi
i podzemnykh metallicheskikh sooruzhenii. Moskva, Gos.izd-vo lit-ry
po voprosam sviazi i radio, 1957. 56 p.   (MLRA 10:9)

1. Laboratoriya zashchity TSentral'nogo nauchno-issledovatel'skogo
instituta svyazi Ministerstva svyazi SSSR (for Nikol'skiy, Razumov)
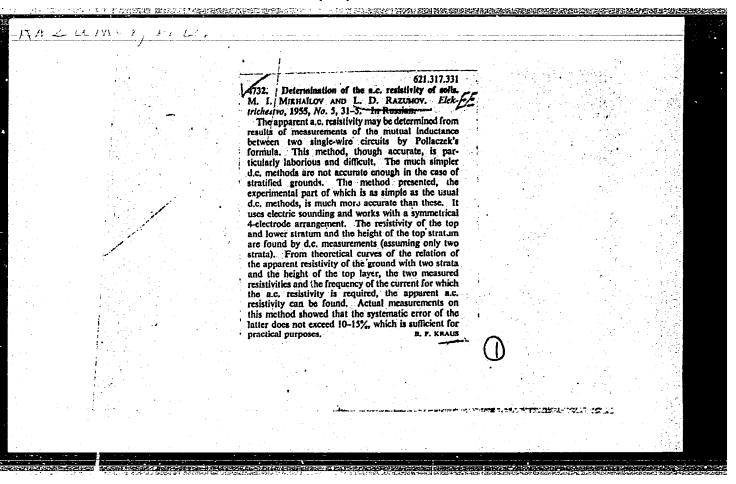   (Electrolytic corrosion)

Razumov, L.D.

620.193

87.   CALCULATION OF THE DANGER OF ELECTRICAL CORROSION TO BURIED METAL STRUCTURES. L.D.Razumov. Elektrichestvo, 1956, No. 9, 67-73. In Russian.

It is necessary to assess the actual danger before such a structure is laid down, in order to minimize this danger and to save the costs of corrosion protection systems by judicious layout of the structure. This implies a determination of the "critical" minimum distance from any potential source of corrosion, and of the surface density of the leakage current of the structure (positive relative to the surrounding soil). The most dangerous cases arise in parallel running of electric traction systems and cable or pipe lines, and where such systems cross. D.c. transmission systems are another corrosion source. Structures with cathodic protection also spell danger for neighbouring unprotected lines. All these cases are investigated with reference to typical examples, parts of which are fully worked.   H.F.Kraus

MIKHAYLOV, M.I., doktor tekhnicheskikh nauk, professor; NIKOL'SKIY, K.K.,
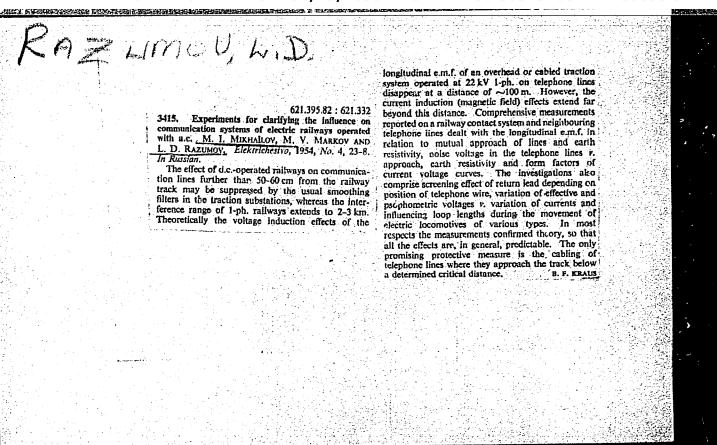   inzhener; RAZUMOV, L.D., inzhener; SOKOLOV, S.A., inzhener.

    Protecting interurban underground communication cables from
    lightning. Vest. sviazi 17 no.3:8-10 Mr '57.   (MIRA 10:4)

    1. Nachal'nik laboratorii TSentral'nogo nauchno-issledovatel'skogo
    instituta svyazi (for Mikhaylov).
            (Electric cables)   (Lightning protection)

621.317.331

4732. Determination of the a.c. resistivity of soils. M. I. MIKHAILOV AND L. D. RAZUMOV. Elektrichestvo, 1955, No. 5, 31-5. In Russian.

The apparent a.c. resistivity may be determined from results of measurements of the mutual inductance between two single-wire circuits by Pollaczek's formula. This method, though accurate, is particularly laborious and difficult. The much simpler d.c. methods are not accurate enough in the case of stratified grounds. The method presented, the experimental part of which is as simple as the usual d.c. methods, is much more accurate than these. It uses electric sounding and works with a symmetrical 4-electrode arrangement. The resistivity of the top and lower stratum and the height of the top stratum are found by d.c. measurements (assuming only two strata). From theoretical curves of the relation of the apparent resistivity of the ground with two strata and the height of the top layer, the two measured resistivities and the frequency of the current for which the a.c. resistivity is required, the apparent a.c. resistivity can be found. Actual measurements on this method showed that the systematic error of the latter does not exceed 10-15%, which is sufficient for practical purposes.   B. F. KRAUS

RAZUMOV, L. D.

3242. Protection of measuring circuits against disturbing influences of
l.f. magnetic and electric fields. M. I. Mikhailov and L. D. Razumov.
Elekrichestvo, 1954, No 2, 26-31. In Russian.

A comprehensive investigation of the distrubing effects of the stray fields
of transformers, motor generators, etc., on laboratory instruments for l.f.
measurements and their possible elimination by screening chambers and cubicles
yielded, above all, the fact that asymmetrical loading of transformers may
amplify the disturbances by a factor of 3-5, and the starting of squirrel-
cage motors also increases the magnetic field strength by similar amounts.
With motor-generators, the strength of the disturbances depends largely on
the design of the motor, modern closed types causing much less trouble than
the old open types. Approximate theoretical formulae for determining the
attenuation by various types of chambers are compared with experimental
attenuation curves obtained with chambers consisting of various metals, with
solid walls and walls consisting of single layers with interstices. The
latter construction is far more efficient than chambers with solid walls,
and the more so the greater the number of layers (4-5 layers of 0.5-1 mm
thickness and insulated against each other are satisfactory). In the case
of large chambers and cubicles two layers at a fairly large distance is an
economic solution. It is well known that ferromagnetics are the best
screening materials.   B. F. Kraus

Razumov, L.D.

621.395.82 : 621.332

3415.   Experiments for clarifying the influence on communication systems of electric railways operated with a.c. M. I. MIKHAILOV, M. V. MARKOV AND L. D. RAZUMOV, Elektrichestvo, 1954, No. 4, 23-8. In Russian.

The effect of d.c.-operated railways on communication lines further than 50-60 cm from the railway track may be suppressed by the usual smoothing filters in the traction substations, whereas the interference range of 1-ph. railways extends to 2-3 km. Theoretically the voltage induction effects of the longitudinal e.m.f. of an overhead or cabled traction system operated at 22 kV 1-ph. on telephone lines disappear at a distance of ~100 m. However, the current induction (magnetic field) effects extend far beyond this distance. Comprehensive measurements reported on a railway contact system and neighbouring telephone lines dealt with the longitudinal e.m.f. in relation to mutual approach of lines and earth resistivity, noise voltage in the telephone lines v. approach, earth resistivity and form factors of current voltage curves. The investigations also comprise screening effect of return lead depending on position of telephone wire, variation of effective and psophometric voltages v. variation of currents and influencing loop lengths during the movement of electric locomotives of various types. In most respects the measurements confirmed theory, so that all the effects are, in general, predictable. The only promising protective measure is the cabling of telephone lines where they approach the track below a determined critical distance.   B. F. KRAUS

MIKHAYLOV, M.I., doktor tekhnicheskikh nauk (Moskva); RAZUMOV, L.D., in-
zhener (Moskva).

Calculating the specific resistance of the earth to an alternating
current. Elektrichestvo no.5:31-35 My '55.   (MLRA 8:5)
(Electric currents, Alternating) (Earth)

MIKHAILOV, M.I., doktor tekhnicheskikh nauk (Moscow); MARKOV, M.V., inzhener (Moscow); RAZUMOV, L.D., inzhener (Moscow).

Clarifying the effect of electric railroads operating with alternating current upon communication lines. Elektrichestvo no.4:23-28 Ap '54.

(MLRA 7:5)

(Electric railroads) (Telecommunication)

RAZUMOV, L.D.

AID P - 651

Subject   : USSR/Electricity

Card 1/1   Pub. 27 - 20/34

Authors   : Mikhaylov, M. I., Dr. of Tech. Sci., Razumov, L. D., Eng.
               and Nikol'skiy, K. K., Eng., Moscow

Title   : Rules for protection of underground metallic structures
               from corrosion caused by stray currents. (Elektrichestvo,
               No. 9, 1952, No. 5, 1953), (Discussion)

Periodical   : Elektrichestvo, 9, 84-85, S 1954

Abstract   : The existing rules, published in 1940, do not well satisfy
               the new requirements of the electric traction. The authors
               comment upon the suggestions of changes presented by
               B. G. Lortkipanidze in Elektrichestvo, No. 9, 1952.

Institution : None

Submitted   : No date

Razumov, L. D.

AID P - 2343

Subject   : USSR/Electricity

Card 1/2   Pub. 27 - 7/30

Authors   : Mikhaylov, M. I., Doc. of Tech. Sci., and
             Razumov, L. D., Eng., Moscow

Title   : Determination of the impedance of earth

Periodical : Elektrichestvo, 5, 31-35, My 1955

Abstract   : The authors analyse methods of calculation of the
             mutual impedance between two circuits with earth return.
             When the earth is of uniform conductivity, the Carson-
             Pollaczek formula applies. When the earth is not of
             uniform conductivity, calculations are extremely tedious.
             The authors applied and developed a method introduced in
             1936 by W. G. Radley and H. J. Josephs. They determined
             the impedance on the assumption of a simple 2-layer
             stratification. Curves were calculated giving equivalent
             conductivity for horizontally-stratified earth. Errors
             of calculation do not exceed 10-15 per cent. Five
             diagrams, 5 references (4 Soviet) (1937-1950).

PHASE I BOOK EXPOLITATION   SOV/2243

Zashchita podzemnykh metallicheskikh sooruzheniy ot korrozii; spravochnik.
    (Protection of Underground Metal Structures From Corrosion; Manual)
    Moscow, Izd-vo M-va kommunal'nogo khoz. RSFSR, 1959. 734 p. Errata
    slip inserted. 6,000 copies printed.

Ed.: N.I. Ryabtsev; Ed. of Publishing House; V.G. Akatova: Tech. Ed.:
YE. S. Petrovskaya.

PURPOSE: This collection of articles is intended as a manual on corrosion
    protection of underground metal structures.

Protection of Underground Metal (Cont.)   SOV/2246

Card 4/26

Protection of Underground Metal (Cont.)   SOV/2246

Card 22/26

Protection of Underground Metal (Cont.)   SOV/2246

Card 25/26

Protection of Underground Metal (Cont.)   SOV/2246

AVAILABLE: Library of Congress

Card 26/26

GO/ec
10-7-59

L 9399-6   EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)

ACC NR: AP5021830   SOURCE CODE: UR/0356/65/000/008/0074/0075

AUTHORS: Login, A. (Candidate of technical sciences); Razumov, M. (Engineer)

43

ORG: none

TITLE: Brake tests of engines on combines   B

SOURCE: Tekhnika v sel'skom khozyaystve, no. 8, 1965, 74-75

TOPIC TAGS: agricultural machinery, test stand, performance test, internal combustion
engine, fuel consumption/ T 4M hydraulic device, 1 APR 3 trailer

ABSTRACT: This article describes a method for brake tests of combine engines without
their removal from the combines. The method was developed at the Novosibirskiy
sel'skokhozyaystvennyy institut (Novosibirsk Agricultural Institute). The method
employs a stand that permits stable loading over the entire range of loads and rpm's,
and also fairly accurate measurement of load, rpm, and fuel consumption. The stand
consists of a T-4M hydraulic brake, supply tanks with pipes, water-collecting headers,
an evacuation pump, couplings, and a fuel-measuring device. The stand can be mounted
on the chassis of a 1-APR-3 trailer. A splined clutch with a universal joint replaces
the pulley on the shaft of the clutch that drives the thresher. This clutch is taken
from a ZIL-150 or ZIL-164 automobile. The condition of the engine is determined after
measuring power and fuel consumption in three different operating regimes. Preparation
and testing took 1.5--2 hrs. The cost of the apparatus (72 rubles) is made up for by
the cost of the removal of three engines (about 27 rubles each). Orig. art. has: 2
photographs and 2 formulas.

SUB CODE: 02 / SUBM DATE: none
Card 1/1   UDC: 631.354.2-84.001.4

RAZUMOV, M. I., Physician Dr. Med. Sci.

Dissertation: "Data on the Pathology and Pathological Anatomy of the Somatic and Vegetative Peripheral Nervous System in Cases of Exhaustion and Avitaminosis B,." Second Moscow State Medical Inst. imeni I. V. Stalin, 24 Mar 47.

SO: Vechernyaya Moskva, Mar, 1947 (Project #17836)

RAZUMOV, M.I., RUBINSHTYN YU.

Joints- diseases

"Experimental alimentary mycotoxic endochondal osteodystrophia; on the ethiology of Kaschin-beck disease." Reviewed by D.V. Kissian. Gig. i san. No. 2,1952.

EFREMOV, V.V.; RAZUMOV, M.I.; TIKHOMIROV, A.N.

Effect of a diet with deficient content of nicotinic acid, tryptophan, and protein on nicotinic acid metabolism in dogs. Voprosy Pitaniya 12, No.1, 50-9 '53.

(MLRA 6:3)

(CA 47 no.14:7050 '53)

., Nutrition Inst., Acad. Med. Sci. U.S.S.R., Moscow.

RAZUMOV, M.I., doktor meditsinskikh nauk, zaveduyushchiy.

Role of nucleic acids in the cyclical replacement of the secretory epithe-
lium of the intestine; functional morphology of the intestine, report no.
2. Vop.pit. 12 no.3:33-45 My-Je '53. (MLRA 6:6)

1. Laboratoriya patologicheskoy morfologii Instituta pitaniya Akademii me-
ditsinskikh nauk SSSR (Moscow). (Epithelium) (Nucleic acids)

ACC NR: AT6036625   SOURCE CODE: UR/0000/66/000/000/0321/0322

AUTHOR: Razumov, M. I.; Khazen, I. M.

ORG: none

TITLE: Functional and histological changes in the liver during accelerations
[Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 321-322

TOPIC TAGS: biologic acceleration effect, liver, biologic secretion, animal physiology, biologic metabolism

ABSTRACT:
    The effect of acceleration on processes of intracellular metabolism has recently received more attention. Due to its size, abundant blood supply, and flexibility in the abdomen, unique disorders occur in the liver under the influence of acceleration.

    Studies were conducted on 8 dogs which were exposed once to 8-G chest-back acceleration for 3 min. The animals were killed at various periods

Card 1/3

ACC NR: AT6036625

after exposure and always 20 hr after feeding. Tissue samples were taken while the animals were alive under morphine-ether anesthesia and each investigation was conducted with a control.

The general reaction of the liver during accelerations was characterized by moderate fatty infiltration of epithelial cells which was observed from the second to the thirtieth day after exposure. Cholesterol precipitation was observed in individual or small groups of epithelial cells.

Neutral fat globules and trivalent iron was found in the cytoplasm of Kupffer cells (animals killed 3 days after exposure). Impurities in the form of brilliant, powerfully refractive crystals of prismatic form were noted in the nuclei of many trabecular cells. These crystals were noted in paraffin, frozen, and celluloid sections using various fixing fluids (acetone, ethalone, Carnoy's fixing fluid, formalin). Birefringence was noted in polarized light. No polysaccharide or lipid components were noted in the crystals. Their protein nature was indicated. In some isolated cells, paired crystals parallel to one another were occasionally noted. Injury to intracellular structures of the liver epithelium included nuclear dislocation in the cytoplasm and chromatin disruption of nuclear matter. As a result, protein synthesis was altered. Precipitation in nuclear matter results in the formation

Card 2/3

ACC NR: AT6036625

of prismatic crystals. The nucleus containing protein crystals together with
noncrystalline precursors was noted in only a small number of epithelial
cells located in internal liver lobules from 3—30 days after exposure. In
a parallel, control experiment, these changes in Kupffer and epithelial cells
were not observed.

   The altered metabolic processes of hepatic cells probably depend not
only on the direct effect of mechanical forces which injure the intracellular
structure, but on the altered structure of other organs and tissues such as
the stomach, pancreas, and small intestine. It is possible that accelerations
intensify the liberation of biologically active substances into the blood which
reach liver capillaries and act as specific stimuli of phenoloxidase synthesis
in the cytoplasm of Kupffer cells. The activity sharply increased in the
first and second days after exposure to acceleration.
   The presence of crystalline structures in cell nuclei has been observed
for the first time. These studies are being continued on other animal spe-
cies.

[W. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 3/3

RAZUMOV, M. I.; SKIRKO, B. K.; GRUBINA, A. Yu. (Moskva)

Influence of massive doses of vitamin B_2 on the development and
course of experimental silicosis in white rats. Arkh. pat. no.8:
55-62 '61.   (MIRA 15:4)

1. Iz Instituta pitaniya AMN SSSR (dir. - chlen-korrespondent
AMN SSSR prof. O. P. Molchanova)

     (RIBOFLAVIN)   (LUNGS--DUST DISEASES)

RAZUMOV, M. I.; GEYMBERG, V. G. (Moskva)

Symbiosis of reticular cells with Bacteroides in the lymphoid follicles of the intestine of rabbits. Arkh. pat. no.4:24-31 '62.   (MIRA 15:4)

1. Iz laboratorii patologicheskoy morfologii (zav. - doktor meditsinskikh nauk M. I. Razumov) i bakteriologicheskoy laboratorii Instituta pitaniya AMN SSSR.

(INTESTINES--MICROBIOLOGY)   (BACTEROIDES)
(LYMPHOID TISSUE--MICROBIOLOGY)

RAZUMOV, M. I. (Moskva)

Study of the formation of the solid portion of intestinal juice
by intravital microscopy of the intestinal mucosa in combination
with the histological method. Arkh. pat. no.12:33-41 '61.
(MIRA 15:7)

1. Iz laboratorii patologicheskoy morfologii (zav. - doktor
meditsinskikh nauk M. I. Razumov) Instituta pitaniya (dir. -
chlen-korrespondent AMN SSSR prof. O. P. Molchanova)AMN SSSR.

(INTESTINES)

RAZUMOV, M.I.; SKIRKO, B.K.; GRUBINA, A.Yu. (Moskva)

Comparative data on the silicogenic influence of different
preparations of quartz (Experimental study). Arkh.pat. no.3:
13-20 '62.   (MIRA 15:3)

1. Iz laboratorii patologicheskoy morfologii (rukovoditel' -
doktor med.nauk M.I. Razumov) i laboratorii obmena veshchestv
i energii (rukovoditel' - prof. O.P. Molchanova) Instituta
pitaniya AMN SSSR.
        (QUARTZ—TOXICOLOGY) (LUNGS—DUST DISEASES)

RAZUMOV, M.I.

    Role of the cells of the intestinal epithelium of the villi
in the mechanism of absorption of nutritional fats. Vop. pit.
21 no.2:20-26 Mr-Ap '62.   (MIRA 15:3)

    1. Iz laboratorii patologicheskoy morfologii (zav. - doktor
med.nauk M.I. Razumov) Institut pitaniya AMN SSSR, Moskva.
        (FAT METABOLISM)   (INTESTINES)
            (ABSORPTION (PHYSIOLOGY))

GRUBINA, A.Yu.; YEZHOVA, Ye.N. [deceased]; KRAYKO, Ye.A.;
        MASLENIKOVA, Ye.M.; RAZUMOV, M.I.; SERGEYEVA, M.A.;
        SKIRKO, B.K.

        Influence of riboflavin on the course of experimental silicosis
        in white rats. Vop. pit. 20 no.6:40-45 N-D '61. (MIRA 15:6)

        1. Iz Instituta pitaniya AMN SSSR, Moskva.
                        (LUNGS--DUST DISEASES)
                    (RIBOFLAVIN--PHYSIOLOGICAL EFFECT)

RAZUMOV, M.I.; SKIRKO, B.K.; GRUBINA, A.Yu.; YEZHOVA, Ye.N.

Significance of the crystalline and amorphous variety of silicon
dioxide in the etiology and pathogenesis of silicosis. Arkh.pat.
22 no.2:38-46 '60.   (MIRA 13:12)
        (LUNGS—DUST DISEASES)   (SILICA)

GRUBINA, A.Yu.; KRAYKO, Ye.A.; MASLENIKOVA, Ye.M.; RAZUMOV, M.I.; SERGEYEVA, M.A.; SKIRKO, B.K.; SHISHOVA, O.A.

Effect of food enriched by methionine on the development of experimental silicosis in white rats. Vop.pit. 20 no.3:41-46 My-Je '61.
(MIRA 14:6)

1. Iz Instituta pitaniya AMN SSSR, Moskva.
(LUNGS—DUST DISEASES)   (METHIONINE)   (DIET)

RAZUMOV, M.I.

Absorption of fat in the intestine; experimental morphological
study. Vop. pit. 19 no. 5:29-35 S-O '60.   (MIRA 14:2)

1. Iz laboratorii patologicheskoy morfologii (zav. - doktor med.
nauk M.I. Razumov) Instituta pitaniya AMN SSSR, Moskva.
        (FATS METABOLISM) (INTESTINES)

RAZUMOV, M.I.; MAKARYCHEV, A.I.; SKIRKO, B.K.; KAZAKOVA; Z.A. (Moskva)

Impairment of carbohydrate metabolism in the central nervous system in dogs in experimental hypertension of cortical oritin; histochemical investigations. Arkh.pat. 22 no.5:26-35 '60.   (MIRA 13:9)

1. Iz laboratorii patologicheskoy monfologii (zav. M.I.Razumov) i laboratorii vysshey nervnoy deyatel'nosti (zav. A.I. Makarychev) Instituta pitaniya AMN SSSR (dir. - chlen-korrespondent AMN SSSR prof. O.P. Molchanova).
          (BRAIN)   (GLYCOGEN METABOLISM)   (HYPERTENSION)
                         (CONDITIONED RESPONSE)

Reel # 460

Razumov, M.I

END